

# Complete Nutritional Database of Indian Flours

High Protein Flour, Whole Wheat Atta & Millet Flour Nutrition Guide

## Comprehensive Flour Nutrition Guide: Understanding Indian Flour Types

Understanding the nutritional composition of different flour types is fundamental to maintaining a balanced diet, especially in the context of Indian cuisine where whole wheat atta and rotis are dietary staples. This comprehensive flour nutrition database serves as an authoritative reference guide for consumers, nutritionists, fitness enthusiasts, and food technologists seeking science-backed nutritional information.

This flour nutritional database has been compiled to help consumers make informed choices based on their specific health goals—whether it is increasing daily protein intake with high protein flour, managing blood sugar levels with low glycemic index millet flours, improving digestive health with high fiber whole grain atta, or selecting gluten-free flour alternatives like jowar, ragi, or buckwheat flour. Whether you're looking for the best flour for weight loss, diabetic-friendly atta options, or calcium-rich ragi flour for bone health, this guide provides detailed nutritional facts per 100g.

**Data Source Integrity:** All flour nutritional values and health benefits presented in this document are sourced from authoritative bodies including the USDA FoodData Central, the Indian Council of Medical Research - National Institute of Nutrition (ICMR-NIN) Dietary Guidelines 2024, and peer-reviewed scientific nutrition studies published in indexed journals.

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## 1. HIGH PROTEIN FLOURS - Best Flour for Muscle Building & Fitness

### High Protein Wheat Flour (Enriched Blend) - 15-18g Protein per 100g

**Overview:** High protein flour (also known as high protein atta) is a functional flour blend designed to maximize daily protein intake through regular rotis and chapatis. Typically composed of whole wheat flour fortified with high-protein sources such as soya flour (10-15%), bengal gram (chickpea) flour, and oats, this protein-enriched atta provides 30-50% more protein than regular whole wheat flour.

| Nutrient      | Value per 100g |
|---------------|----------------|
| Energy        | ~360 kcal      |
| Protein       | 15g - 24g      |
| Carbohydrates | 60g - 65g      |
| Dietary Fiber | 12g - 14g      |

| Nutrient     | Value per 100g           |
|--------------|--------------------------|
| Total Fat    | 2.5g - 3g                |
| Key Minerals | Iron, Calcium, Magnesium |

#### Key Nutritional Highlights:

- Contains significantly higher protein (30-50% more) than regular whole wheat atta.
- Enriched amino acid profile due to the complementary combination of cereals (wheat) and legumes (soya/gram), providing better quality protein.
- Lower net carbohydrate content compared to standard wheat flour, beneficial for weight management.
- Ideal high protein flour for gym-goers, athletes, fitness enthusiasts, and protein-deficient diets.

**Health Benefits of High Protein Flour:** Supports muscle repair and maintenance after workouts; increased satiety aids in weight management and appetite control; improved glycemic response helps manage blood sugar levels; helps meet daily protein requirements through familiar roti-based meals.

**Who Should Consume:** Bodybuilders, gym enthusiasts, growing children, elderly individuals with muscle loss concerns, vegetarians needing extra protein, people following high-protein diets for weight loss.

*Source: Composite data based on standard high protein flour formulations (Wheat + 10-15% Soya + Bengal Gram) referenced against USDA/ICMR-NIN values for individual ingredients.*

#### Soya Flour (Defatted) - India's Highest Protein Flour at 47-51g per 100g

**Overview:** Soya flour (also called soybean flour) is made from roasted soybeans that have been ground into a fine powder. Defatted soya flour has had the oils removed during processing, resulting in the highest protein content of any flour available in India - making it the ultimate plant-based protein source for vegetarians and vegans.

| Nutrient | Value per 100g |
|----------|----------------|
| Energy   | 330 - 347 kcal |
| Protein  | 47g - 51g      |

| Nutrient      | Value per 100g                       |
|---------------|--------------------------------------|
| Carbohydrates | 30g - 35g                            |
| Dietary Fiber | 17g - 18g                            |
| Total Fat     | 1.2g                                 |
| Key Minerals  | Calcium, Iron, Potassium, Phosphorus |

#### Key Nutritional Highlights:

- One of the highest plant-based protein sources available - nearly 50% protein by weight.
- Rich in isoflavones (plant compounds with antioxidant properties).
- Complete protein profile containing all 9 essential amino acids, rare for plant-based sources.
- Best flour for protein fortification and enrichment of other flours.

**Health Benefits of Soya Flour:** Excellent protein source for vegan bodybuilding and muscle building; assists in lowering LDL cholesterol levels; supports bone health due to isoflavone content; helps meet protein requirements without animal products.

**Who Should Consume:** Vegans and vegetarians seeking complete protein, bodybuilders, menopausal women (isoflavones support hormonal balance), individuals with high cholesterol.

*Source: USDA FoodData Central (Defatted Soy Flour, FDC ID: 174275).*

#### Besan (Chickpea/Gram Flour) - Gluten-Free High Protein Flour with 20-22g Protein

**Overview:** Besan (also known as gram flour, chickpea flour, or chana atta) is a pulse flour made from ground chickpeas (Bengal gram). It is a traditional staple in Indian households, extensively used for making pakoras, chillas, batters, curries, and breads. As a naturally gluten-free high-protein flour, besan is an excellent alternative for those with celiac disease or gluten sensitivity.

| Nutrient | Value per 100g |
|----------|----------------|
| Energy   | 356 - 387 kcal |
| Protein  | 20g - 22g      |

| Nutrient      | Value per 100g                |
|---------------|-------------------------------|
| Carbohydrates | 53g - 58g                     |
| Dietary Fiber | 10g - 11g                     |
| Total Fat     | 6g - 7g                       |
| Key Vitamins  | Folate (Vitamin B9), Thiamine |

#### Key Nutritional Highlights:

- High Folate (Vitamin B9) content - crucial for cell division, DNA synthesis, and pregnancy nutrition.
- Naturally gluten-free flour - safe for celiac disease and gluten intolerance.
- Lower Glycemic Index (GI) compared to wheat flour - better blood sugar control.
- Rich in plant-based protein making it one of the best protein-rich flours for vegetarians.

**Health Benefits of Besan:** Helps control blood sugar and diabetes management due to low GI and high fiber; promotes heart health due to fiber, magnesium, and potassium content; suitable for gluten intolerance and celiac disease; supports healthy pregnancy due to folate; aids weight management through increased satiety.

**Who Should Consume:** Diabetics (low GI benefits), pregnant women (folate), people with gluten sensitivity, vegetarians seeking protein, individuals with PCOS.

*Source: USDA FoodData Central (Chickpea Flour, FDC ID: 16157); ICMR-NIN.*

## 2. WHOLE GRAIN FLOURS - High Fiber Atta for Daily Nutrition

### Whole Wheat Flour (Chakki Atta) - India's Most Popular Flour

**Overview:** Whole wheat flour (commonly called chakki atta or whole wheat atta) is the most common and widely consumed flour in India. It is derived from grinding the entire wheat kernel including the nutrient-rich bran (outer layer), germ (embryo), and endosperm. Unlike refined flour (maida), whole wheat atta retains significantly more vitamins, minerals, fiber, and antioxidants. Fresh chakki atta (stone-ground flour) is considered superior for preserving nutrients.

| Nutrient | Value per 100g |
|----------|----------------|
| Energy   | 340 kcal       |

| Nutrient      | Value per 100g                  |
|---------------|---------------------------------|
| Protein       | 12g - 13g                       |
| Carbohydrates | 72g                             |
| Dietary Fiber | 11g - 14g                       |
| Total Fat     | 2g - 2.5g                       |
| Key Minerals  | Selenium, Manganese, Phosphorus |

#### Key Nutritional Highlights:

- Rich in insoluble fiber which aids digestion and bowel regularity.
- Good source of B-complex vitamins (thiamine, niacin, riboflavin) essential for energy metabolism.
- Contains wheat germ oil in trace amounts providing Vitamin E (antioxidant).
- 100% natural - no artificial additives when stone-ground fresh.

**Health Benefits of Whole Wheat Atta:** Promotes digestive regularity and prevents constipation; reduces risk of colorectal cancer due to fiber content; provides sustained energy release preventing blood sugar spikes; supports heart health; helps maintain healthy body weight.

**Who Should Consume:** Everyone as daily staple flour, individuals seeking heart health, diabetics (better than maida), those with digestive issues, weight-conscious individuals.

*Source: ICMR-NIN Dietary Guidelines 2024; USDA FoodData Central (Whole Wheat Flour, FDC ID: 20080).*

#### Multigrain Flour (Multi-Grain Atta) - Nutrient-Dense Blend of Multiple Grains

**Overview:** Multigrain flour (also known as multigrain atta or multi-grain flour) is a nutritionally enhanced blend primarily based on whole wheat but fortified with 4-8 additional grains and pulses like oats, barley, maize/corn, ragi, bajra, jowar, chana dal, and soya. This combination creates a more diverse nutrient profile than single-grain flours, offering broader health benefits.

| Nutrient      | Value per 100g |
|---------------|----------------|
| Energy        | ~340 kcal      |
| Protein       | 12g - 15g      |
| Carbohydrates | 70g - 72g      |
| Dietary Fiber | 8g - 12g       |
| Total Fat     | 2g - 3g        |

#### Key Nutritional Highlights:

- Diverse micronutrient profile due to grain variety - vitamins, minerals, antioxidants from multiple sources.
- Balanced combination of soluble and insoluble fiber for complete digestive health.
- Higher protein content than regular atta when includes pulses/soya.
- Nutritional composition varies by specific grain blend (check product labels).

**Health Benefits of Multigrain Flour:** Comprehensive nutrition from multiple grain sources; improved metabolism and digestion; better micronutrient diversity; prevents dietary boredom and flavor fatigue; suitable for general health maintenance.

**Who Should Consume:** Health-conscious individuals, families seeking balanced nutrition, children (variety of nutrients), elderly, anyone wanting to upgrade from regular atta.

*Source: Average composition based on market-leading multigrain atta blends (typically 6-8 grains); ICMR-NIN.*

### 3. MILLET FLOURS - Gluten-Free Ancient Grains for Diabetes & Weight Management

#### Jowar Flour (Sorghum Flour) - Best Gluten-Free Flour for Diabetics

**Overview:** Jowar flour (also called sorghum flour, cholam, or jonna flour) is an ancient cereal grain that is naturally gluten-free and highly resilient to drought. It is a traditional staple in Maharashtra, Karnataka, and parts of Rajasthan. Jowar bhakri (flatbread) is a popular regional specialty. Jowar is considered one of the best flours for diabetics due to its low glycemic index and high fiber content.

| Nutrient      | Value per 100g          |
|---------------|-------------------------|
| Energy        | 329 - 334 kcal          |
| Protein       | 10g - 11g               |
| Carbohydrates | 72g                     |
| Dietary Fiber | 6.7g - 10g              |
| Total Fat     | 3.5g                    |
| Key Minerals  | Magnesium, Iron, Copper |

#### Key Nutritional Highlights:

- 100% Gluten-free flour - safe for celiac disease and gluten sensitivity.
- High in antioxidants - rich in phenolic compounds that fight oxidative stress.
- Resistant starch content aids gut health and prebiotic benefits.
- Low Glycemic Index (GI) - ideal diabetic flour for blood sugar management.

**Health Benefits of Jowar Flour:** Excellent for Celiac disease and gluten intolerance; helps manage diabetes through slow carb digestion; supports heart health via magnesium and potassium; promotes digestive health and regular bowel movements; aids weight management due to high fiber satiety.

**Who Should Consume:** Diabetics, people with celiac disease/gluten sensitivity, weight watchers, heart patients, individuals seeking gluten-free alternatives to wheat.

*Source: ICMR-NIN Indian Food Composition Tables; USDA FoodData Central.*

#### Ragi Flour (Finger Millet) - Highest Calcium Flour for Bone Health (344mg per 100g)

**Overview:** Ragi (also known as finger millet, nachni, or mandua) is known as a superfood in India. The flour is reddish-brown in color and traditionally used for making ragi porridge (ragi malt/java), ragi mudde (balls), dosas, and rotis. Ragi is especially valued for infants, growing children, pregnant women, and elderly individuals due to its exceptionally high calcium content - the highest among all cereals and millets.

| Nutrient | Value per 100g |
|----------|----------------|
| Energy   | 320 - 336 kcal |



| Nutrient      | Value per 100g                |
|---------------|-------------------------------|
| Protein       | 7g - 8g                       |
| Carbohydrates | 72g                           |
| Dietary Fiber | 11g - 12g                     |
| Total Fat     | 1.5g                          |
| Key Minerals  | <b>Calcium (344mg)</b> , Iron |

#### Key Nutritional Highlights:

- **Highest Calcium content (344mg per 100g)** among all cereals, millets, and flours - crucial for bone density.
- Rich in essential amino acid Tryptophan which promotes serotonin production (mood, sleep regulation).
- Low Glycemic Index (GI 57) - excellent for diabetes management.
- Naturally gluten-free and rich in iron - combats anemia.

**Health Benefits of Ragi Flour:** Critical for bone health, osteoporosis prevention, and dental health (especially in children and elderly); helps control diabetes through low GI and slow digestion; aids in relaxation, stress relief, and better sleep quality (tryptophan); combats iron-deficiency anemia; supports weight loss through high fiber content; safe for gluten intolerance.

**Who Should Consume:** Growing children (calcium for bones/teeth), pregnant & lactating women, elderly (osteoporosis prevention), diabetics, people with insomnia/anxiety, anemic individuals, lactose-intolerant people (non-dairy calcium source).

*Source: ICMR-NIN Indian Food Composition Tables 2017.*

#### Bajra Flour (Pearl Millet) - High Energy Flour Rich in Iron

**Overview:** Bajra (also called pearl millet, kambu, or saje) is a hardy, drought-resistant grain typically consumed during winter months in North India (especially Rajasthan, Haryana, Gujarat) due to its heat-generating properties (considered "hot" in Ayurveda). Bajra roti is a traditional flatbread. It is particularly valued for its high iron content, making it beneficial for anemia prevention and overall vitality.

| Nutrient      | Value per 100g   |
|---------------|------------------|
| Energy        | 361 kcal         |
| Protein       | 11g - 12g        |
| Carbohydrates | 67g              |
| Dietary Fiber | 8g - 11g         |
| Total Fat     | 5g               |
| Key Minerals  | Iron, Phosphorus |

#### Key Nutritional Highlights:

- High energy density (361 kcal per 100g) - provides sustained stamina and warmth.
- Excellent source of Iron (helps combat iron-deficiency anemia).
- High insoluble fiber content - promotes digestive regularity.
- Naturally gluten-free and rich in B-vitamins.

**Health Benefits of Bajra Flour:** Combats anemia through high iron bioavailability; provides sustained energy for physical labor and active lifestyles; promotes heart health via magnesium and potassium; aids digestion and prevents constipation; generates body heat (ideal winter flour).

**Who Should Consume:** Anemic individuals (especially women), people in cold climates, athletes/laborers needing sustained energy, diabetics (low GI benefits), individuals with gluten sensitivity.

*Source: ICMR-NIN; USDA FoodData Central.*

## 4. SPECIALTY FLOURS - Functional Flours for Heart Health & Cholesterol Management

### Oat Flour - Beta-Glucan Rich Flour for Lowering Cholesterol

**Overview:** Oat flour is made from grinding whole oats into a fine powder. It has a mild, nutty, slightly sweet flavor and is increasingly popular in India for health-conscious baking, breakfast porridges, and smoothies. Oats are globally recognized for their heart-healthy properties, particularly their cholesterol-lowering beta-glucan fiber. Oat flour is gluten-free by nature but may be cross-contaminated during processing (certified gluten-free options available).

| Nutrient      | Value per 100g     |
|---------------|--------------------|
| Energy        | ~404 kcal          |
| Protein       | 14g - 17g          |
| Carbohydrates | 66g                |
| Dietary Fiber | 6g - 7g            |
| Total Fat     | 7g - 9g            |
| Key Compounds | <b>Beta-Glucan</b> |

#### Key Nutritional Highlights:

- Rich in Beta-Glucan - a soluble fiber clinically proven to lower LDL (bad) cholesterol.
- High in antioxidants called avenanthramides (unique to oats) - anti-inflammatory and heart-protective.
- Good protein content for a grain flour (14-17g per 100g).
- Contains prebiotic fiber that feeds beneficial gut bacteria.

**Health Benefits of Oat Flour:** Clinically proven to lower LDL cholesterol by 5-10% when consumed regularly (3g beta-glucan daily); stabilizes blood sugar and improves insulin sensitivity; increases feelings of fullness aiding weight management; supports digestive and gut health; reduces heart disease risk.

**Who Should Consume:** People with high cholesterol, heart disease patients, diabetics, weight-conscious individuals, those seeking sustained satiety, gut health enthusiasts.

*Source: USDA FoodData Central; Harvard School of Public Health Nutrition Source.*

#### Barley Flour (Jau Atta) - Highest Fiber Flour for Digestive Health (17g per 100g)

**Overview:** Barley flour (jau ka atta) is made from grinding whole barley grain. It has a sweet, nut-like flavor with a slightly earthy undertone and is traditionally used in Indian breads, flatbreads, and health drinks. Barley is one of the oldest cultivated grains and has exceptional fiber content - the highest among common flours. Like oats, barley is renowned for its beta-glucan content and cardiovascular benefits.

| Nutrient      | Value per 100g |
|---------------|----------------|
| Energy        | 354 kcal       |
| Protein       | 12g            |
| Carbohydrates | 73g            |
| Dietary Fiber | 17g            |
| Total Fat     | 2.3g           |
| Key Compounds | Beta-Glucan    |

#### Key Nutritional Highlights:

- Exceptionally high fiber content (17g per 100g) - highest among all common flours.
- Contains both soluble fiber (beta-glucan) and insoluble fiber for complete digestive health.
- Rich in Selenium - powerful antioxidant mineral for immune function.
- Low Glycemic Index despite being a grain - diabetes-friendly.

**Health Benefits of Barley Flour:** Improves intestinal health and prevents constipation through very high fiber; assists in blood pressure regulation via potassium; aids significant weight loss through increased satiety; lowers cholesterol like oats; supports blood sugar control.

**Who Should Consume:** Individuals with digestive issues/constipation, people seeking weight loss (high satiety), those with high cholesterol/blood pressure, diabetics, colon health conscious individuals.

*Source: USDA FoodData Central; Whole Grains Council.*

#### Maida (Refined Wheat Flour) - Comparison Flour (Lower Nutritional Value)

**Overview:** Maida is highly refined white flour where the nutrient-rich bran and germ layers have been completely removed during processing, leaving only the starchy endosperm. While it provides excellent texture and fluffiness for bakery products like naan, kulcha, pizza, cakes, and pastries, it is nutritionally inferior to whole grain flours. Maida is included here for nutritional comparison purposes to highlight the benefits of whole grain and functional flours.

| Nutrient          | Value per 100g                |
|-------------------|-------------------------------|
| Energy            | 364 kcal                      |
| Protein           | 10g - 11g                     |
| Carbohydrates     | 76g                           |
| Dietary Fiber     | 2g - 3g                       |
| Total Fat         | 1g                            |
| Vitamins/Minerals | Negligible (unless fortified) |

#### Key Nutritional Highlights:

- Stripped of 70-80% of fiber and most micronutrients during refining process.
- High Glycemic Index (GI 85+) - causes rapid blood sugar spikes.
- Empty calories - provides energy but minimal nutritional value unless fortified.

**Health Considerations:** Provides quick energy but can lead to blood sugar spikes and insulin resistance with regular consumption; lacks essential fiber found in whole wheat atta; may contribute to weight gain due to low satiety; not recommended for diabetics or those managing weight. **Recommendation:** Replace with whole wheat atta, multigrain flour, or other functional flours for better health outcomes.

**Who Should Avoid:** Diabetics, prediabetics, weight-conscious individuals, people with insulin resistance, those seeking optimal nutrition.

*Source: USDA; ICMR-NIN.*

## 5. ANCIENT GRAIN FLOURS - Complete Protein & Gluten-Free Superfood Flours

### Amaranth Flour (Rajgira Atta) - Complete Protein Flour Rich in Lysine

**Overview:** Amaranth flour (rajgira ka atta or ramdana flour) is a pseudo-cereal (technically a seed, not a grain) traditionally used during Hindu fasting periods (vrata/upvas) in India. It is naturally gluten-free and exceptionally nutrient-dense. Amaranth is unique among plant-based flours as it contains lysine, an essential amino acid typically lacking in grains, making it a near-complete protein source comparable to animal proteins.

| Nutrient       | Value per 100g |
|----------------|----------------|
| Energy         | 371 kcal       |
| Protein        | 13g - 14g      |
| Carbohydrates  | 65g            |
| Dietary Fiber  | 7g             |
| Total Fat      | 7g             |
| Key Amino Acid | <b>Lysine</b>  |

#### Key Nutritional Highlights:

- Contains Lysine (rare in plant-based grains), making it a near-complete protein with all essential amino acids.
- High Magnesium and Iron content - supports muscle function and combats anemia.
- 100% Gluten-free and highly digestible.
- Rich in squalene - a compound with anti-inflammatory and antioxidant properties.

**Health Benefits of Amaranth Flour:** Reduces inflammation and supports immune function; lowers cholesterol levels through fiber and squalene; supports muscle repair and recovery (complete protein); excellent for gluten-free diets; helps manage anemia.

**Who Should Consume:** Vegetarians/vegans needing complete protein, people with celiac disease/gluten intolerance, individuals observing fasting rituals, athletes (muscle recovery), those with inflammatory conditions.

*Source: USDA FoodData Central; Whole Grains Council.*

#### Quinoa Flour - Gluten-Free Complete Protein Superfood Flour

**Overview:** Quinoa flour is made from grinding quinoa seeds (pronounced "keen-wah"), an ancient Andean pseudo-cereal that has gained immense popularity in India as a premium health food. It is one of the few plant-based complete proteins containing all 9 essential amino acids in optimal ratios. Quinoa flour is naturally gluten-free and has a mild, slightly nutty flavor, making it an excellent high-protein baking alternative for health-conscious consumers.

| Nutrient      | Value per 100g |
|---------------|----------------|
| Energy        | 368 kcal       |
| Protein       | 13g - 14g      |
| Carbohydrates | 64g            |
| Dietary Fiber | 7g             |
| Total Fat     | 6g             |

#### Key Nutritional Highlights:

- **Complete Protein Source:** Contains all 9 essential amino acids in optimal ratios - rare in plant foods.
- High antioxidant content (quercetin and kaempferol flavonoids).
- Rich in minerals - Magnesium, Iron, Zinc, Manganese for overall health.
- Naturally gluten-free and easy to digest.

**Health Benefits of Quinoa Flour:** Ideal complete protein source for vegetarians/vegans ensuring all amino acid requirements; supports high metabolic health and energy production; aids blood sugar control (low GI); rich antioxidants fight oxidative stress and aging; excellent for gluten-free diets without compromising protein intake.

**Who Should Consume:** Vegans/vegetarians seeking complete protein, athletes and bodybuilders, people with celiac disease/gluten sensitivity, health-conscious bakers, those following low-GI diets.

*Source: USDA FoodData Central; Food and Agriculture Organization (FAO).*

#### Buckwheat Flour (Kuttu ka Atta) - Rutin-Rich Antioxidant Flour for Heart Health

**Overview:** Buckwheat flour (kuttu ka atta) is another pseudo-cereal widely used during Navratri and other Hindu fasting periods in India. Despite its name containing "wheat," buckwheat is completely unrelated to wheat and is 100% gluten-free - it's actually related to rhubarb. Buckwheat is particularly valued for its high content of rutin, a powerful bioflavonoid antioxidant that strengthens blood vessels and improves cardiovascular health.

| Nutrient      | Value per 100g |
|---------------|----------------|
| Energy        | 335 kcal       |
| Protein       | 13g            |
| Carbohydrates | 71g            |
| Dietary Fiber | 10g            |
| Total Fat     | 3g             |
| Key Compound  | <b>Rutin</b>   |

**Key Nutritional Highlights:**

- Rich in Rutin - a powerful bioflavonoid antioxidant that strengthens capillaries and blood vessels.
- High mineral content - especially Manganese, Copper, and Magnesium for enzyme function.
- Contains resistant starch - beneficial for gut health and blood sugar control.
- Naturally gluten-free and suitable for fasting.

**Health Benefits of Buckwheat Flour:** Rutin strengthens blood vessels, improves circulation, and reduces varicose veins; helps manage blood sugar levels through resistant starch and low GI; supports heart health by reducing inflammation; improves blood pressure control; excellent for gluten-free and celiac diets.

**Who Should Consume:** People with cardiovascular issues, those with high blood pressure, diabetics, individuals observing fasting, people with varicose veins/poor circulation, gluten-intolerant individuals.

*Source: USDA FoodData Central; PMC scientific literature on buckwheat bioactive compounds.*

**COMPARATIVE ANALYSIS: Flour Nutrition Comparison Charts**

**1. Protein Content Comparison - Best High Protein Flours in India (per 100g)**

| Flour Type            | Protein (g) | Rating          |
|-----------------------|-------------|-----------------|
| Soya Flour (Defatted) | 47 - 51     | ★★★★★ (Highest) |
| Besan (Chickpea)      | 20 - 22     | ★★★★            |



| Flour Type         | Protein (g) | Rating     |
|--------------------|-------------|------------|
| High Protein Flour | 15 - 24     | ★★★★       |
| Oat Flour          | 14 - 17     | ★★★        |
| Whole Wheat Atta   | 12 - 13     | ★★         |
| Maida              | 10 - 11     | ★          |
| Ragi               | 7 - 8       | ★ (Lowest) |

## 2. Dietary Fiber Comparison - High Fiber Flour Ranking (per 100g)

| Flour Type       | Fiber (g) | Key Benefit  |
|------------------|-----------|--------------|
| Soya Flour       | 17 - 18   | Digestion    |
| Barley Flour     | 17        | Heart Health |
| Whole Wheat Atta | 11 - 14   | Regularity   |
| Ragi Flour       | 11 - 12   | Satiety      |
| Jowar Flour      | ~10       | Gut Health   |
| Maida            | 2 - 3     | Low Fiber    |

## 3. Special Nutrients Summary - Unique Flour Benefits & Compounds

| Flour             | Unique Compound | Benefit             |
|-------------------|-----------------|---------------------|
| Ragi              | Calcium (344mg) | Bone Strength       |
| Oat & Barley      | Beta-Glucan     | Lowers Cholesterol  |
| Buckwheat         | Rutin           | Blood Vessel Health |
| Amaranth & Quinoa | Lysine          | Complete Protein    |
| Besan             | Folate          | Cellular Health     |

## Frequently Asked Questions (FAQs) About Flour Nutrition

### Q1: Which flour has the highest protein content in India?

*Answer:* Soya flour (defatted) has the highest protein content at 47-51g per 100g, followed by besan (20-22g) and high protein enriched flour blends (15-18g).

**Q2: What is the best flour for diabetics?**

*Answer:* Jowar (sorghum), ragi, bajra, and barley flours are excellent for diabetics due to their low glycemic index and high fiber content that helps regulate blood sugar levels.

**Q3: Which flour is best for weight loss?**

*Answer:* High protein flour, barley flour, and oat flour are ideal for weight loss due to high satiety from fiber and protein, keeping you full longer.

**Q4: Which Indian flour has the most calcium?**

*Answer:* Ragi (finger millet) flour has the highest calcium content at 344mg per 100g - 10 times more than wheat flour.

**Q5: Are millet flours gluten-free?**

*Answer:* Yes, all millet flours (jowar, ragi, bajra) are naturally 100% gluten-free and safe for celiac disease.

**Q6: What is the difference between whole wheat atta and maida?**

*Answer:* Whole wheat atta contains the entire wheat kernel (bran, germ, endosperm) with 12-14g fiber per 100g, while maida is refined with only 2-3g fiber and most nutrients removed.

**Disclaimer:** Nutritional values presented in this document are approximate and may vary based on specific crop varieties, processing methods, and growing conditions. Values are standardized per 100g of raw flour unless otherwise noted.

**Data Compilation Sources:** USDA FoodData Central, ICMR-NIN Dietary Guidelines for Indians (2024), and peer-reviewed scientific literature.

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*For specific dietary advice regarding medical conditions, please consult a registered dietitian or healthcare provider.*

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- [Protein in Wheat Flour](#)
- [Healthy Roti Variants](#)
- [Jowar Flour: Common Uses and Health Benefits](#)
- [Nutritional Benefits of Multigrain Atta](#)
- [Nutritional Benefits of "Khapli" Emmer Wheat Flour](#)

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- [Multigrain Atta vs Regular Atta](#)
- [Bajra vs Jowar: Which is Better?](#)
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